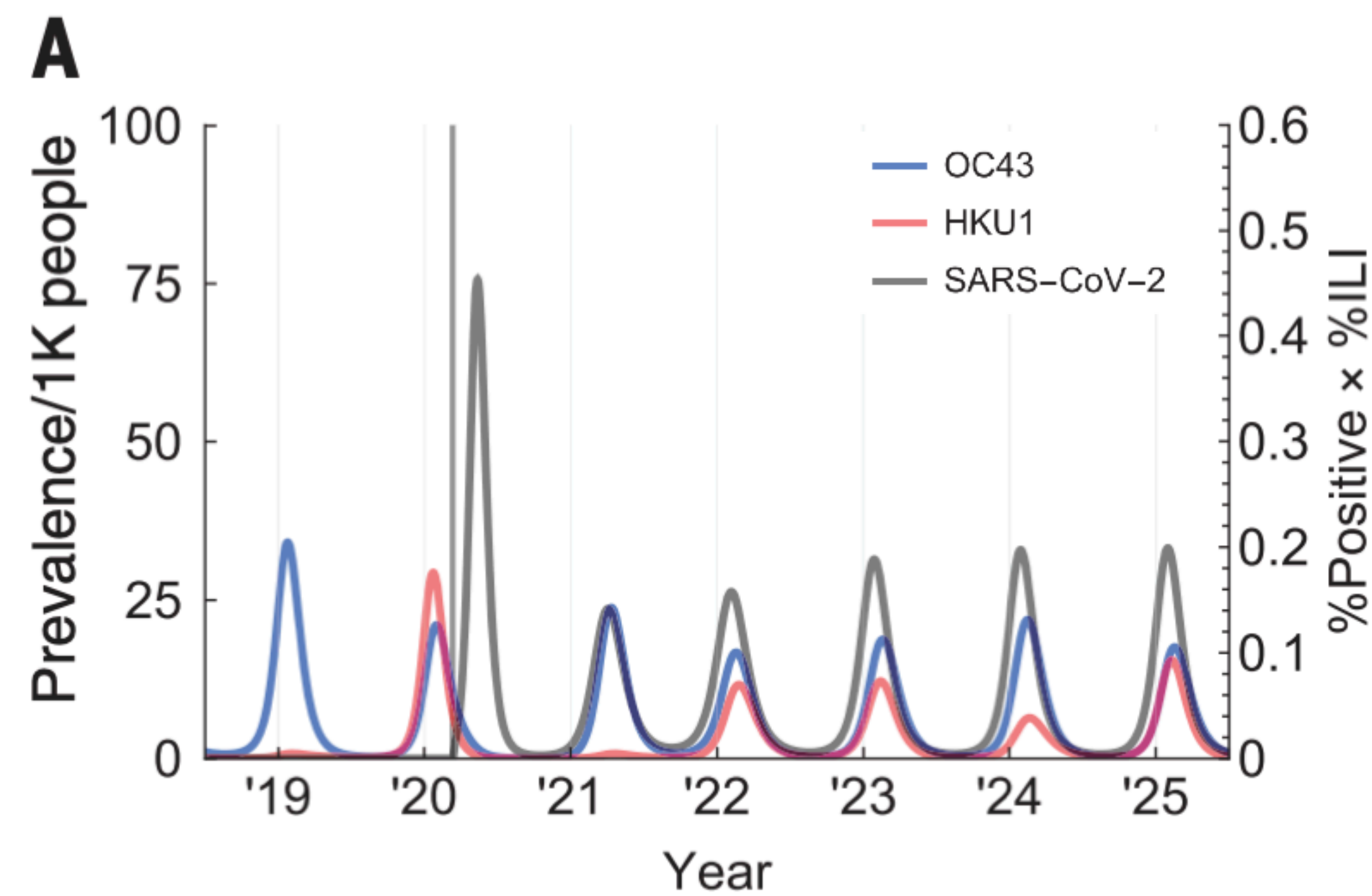
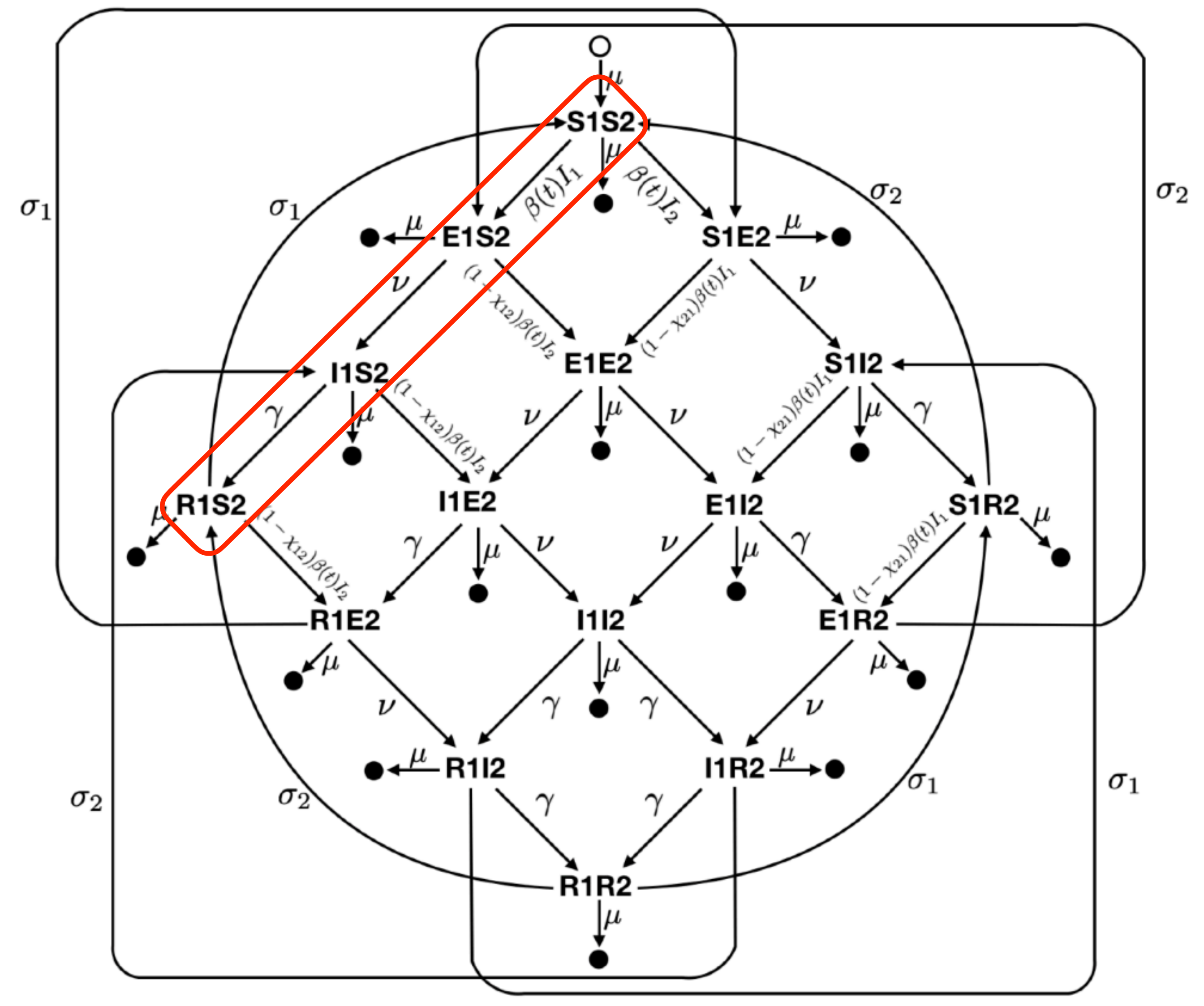
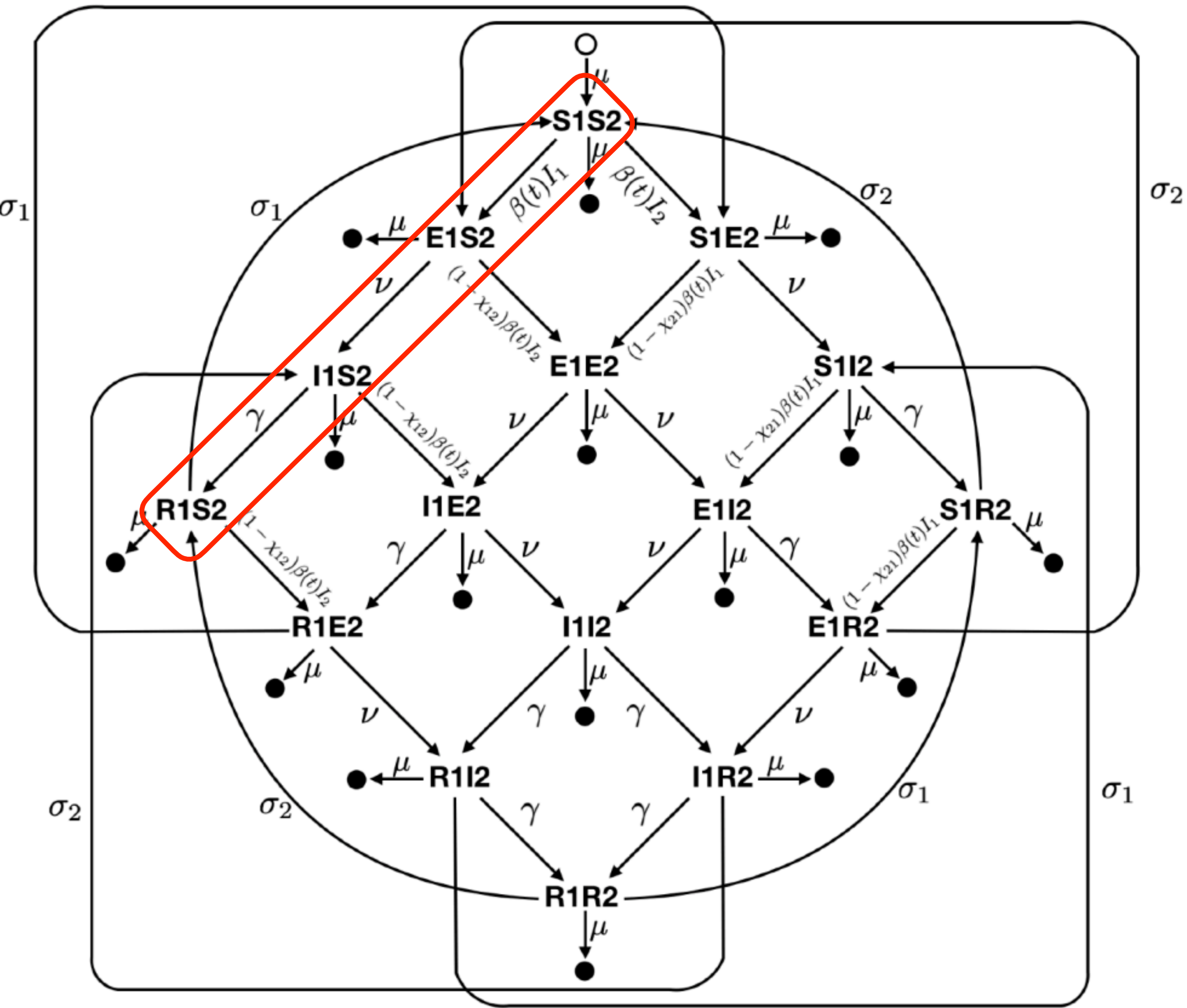


The full model

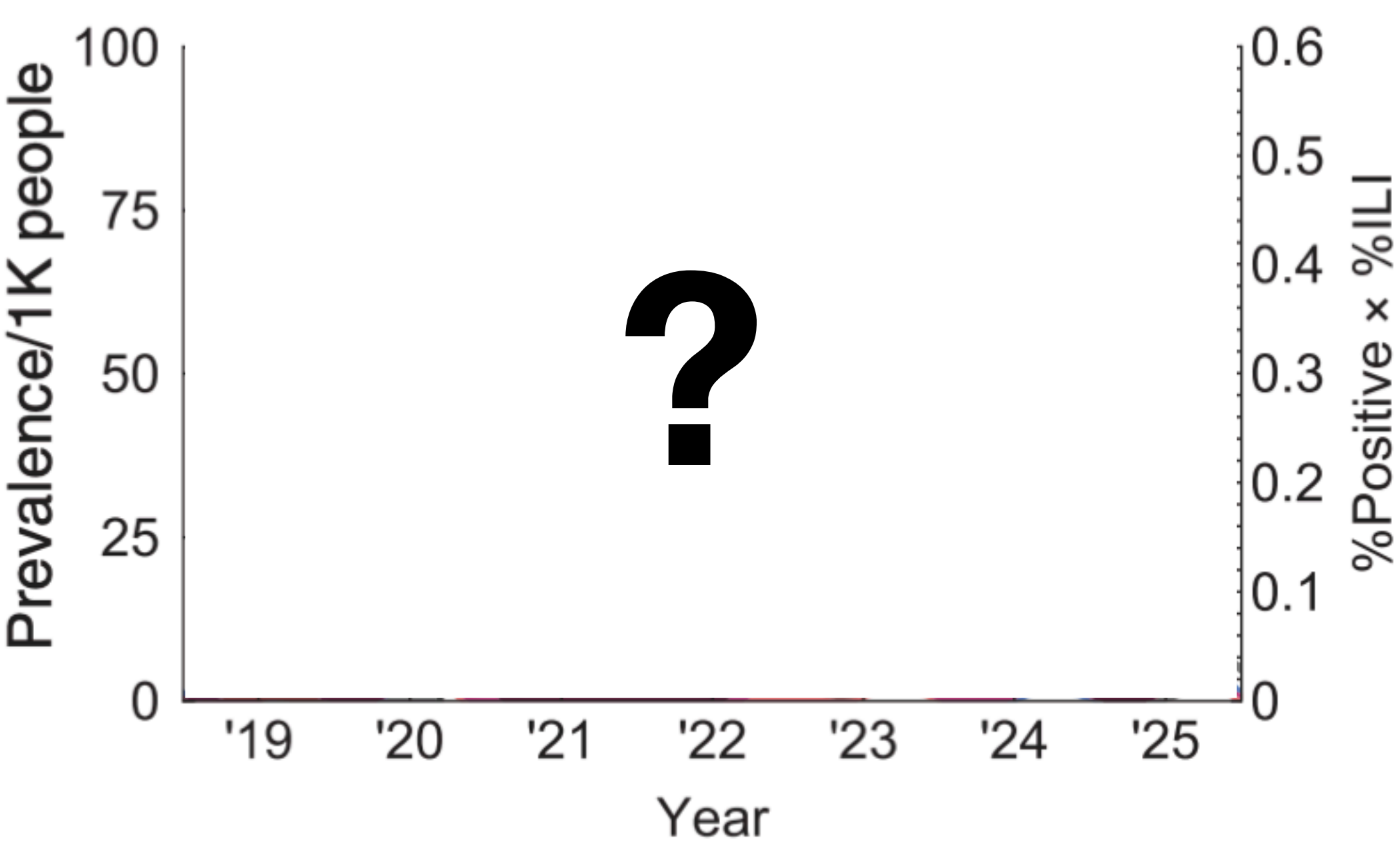


Short-lived immunity ($1/\sigma = 30$ weeks) can yield annual outbreaks of SARS-CoV-2.

The full model



B



Longer-lasting immunity ($1/\sigma = 104$ weeks)